PRIME nano technology

PRODUCT DATA SHEET

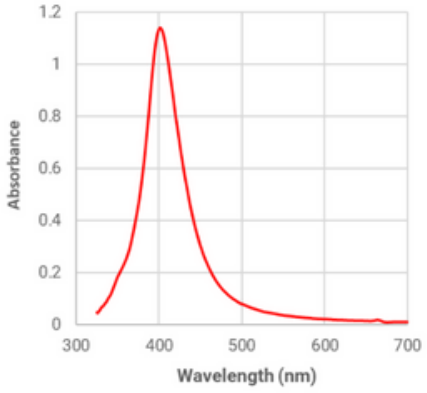
Silver Nanoparticles

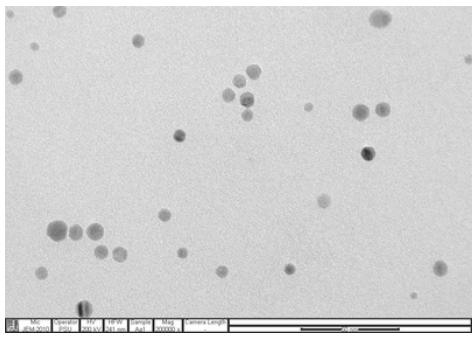
47
Ag
107.868

ag-102

Name: High Concentration Starch-capped AgNPs in DI Water
Product Code: ag-102
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Yellow brown colloid
Particle Shape: Nanospheres
Primary Particle Size: 15 ± 10 nm
Concentration: 10,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 400 ± 10 nm
Stability: 12 months; Use within 3 months after open
Recommended dosage: 0.1-2%





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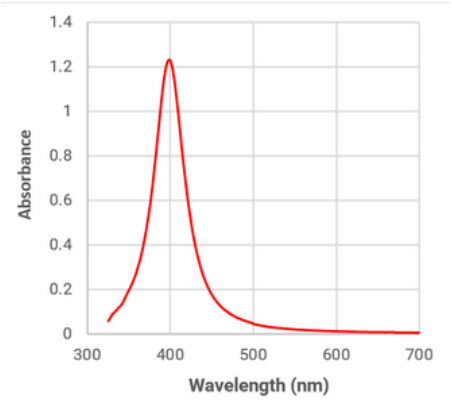
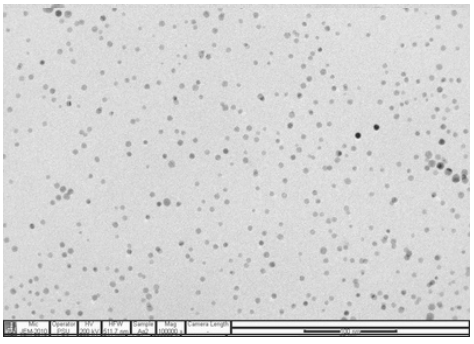
47
Ag
107.868

ag-103c

Name: Starch-capped AgNPs in DI Water
Product Code: ag-103c
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 10 ± 5 nm
Concentration: 5,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 400 ± 5 nm
Stability: 12 months; Use within 3 months after open
Recommended dosage: 0.2-4%





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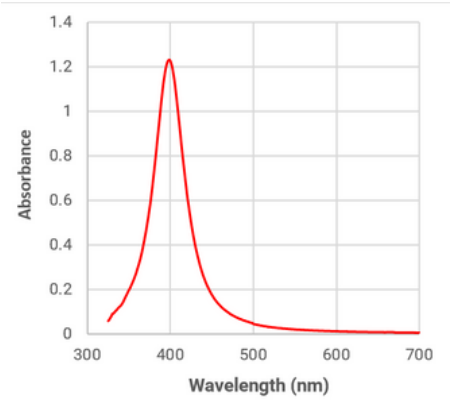
Silver Nanoparticles

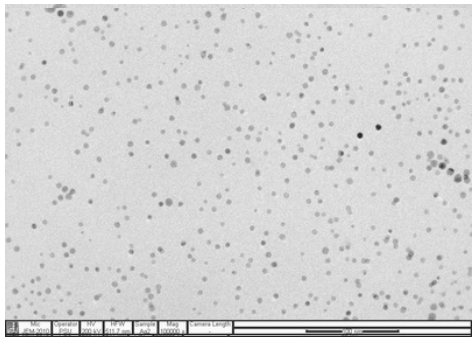
47
Ag
107.868

ag-103

Name: Starch-capped AgNPs in DI Water
Product Code: ag-103
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 10 ± 5 nm
Concentration: 1,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 400 ± 5 nm
Stability: 12 months; Use within 3 months after open
Recommended dosage: 1-5%





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Silver Nanoparticles

47
Ag
107.868

ag-104

Name: PVP-capped AgNPs in Ethanol
Product Code: ag-104
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 10 ± 5 nm
Concentration: 1,000 part per million (ppm; equivalent to mg/L)
Solvent: Ethanol
Stabilizing Agent: Polyvinylpyrrolidone (PVP)
λmax (UV-VIS Absorbance): 400 ± 5 nm
Stability: 12 months; Use within 3 months after open
Recommended dosage: 1-5%

PRIME nano technology

Silver Nanoparticles

47
Ag
107.868

ag-121c

Name: High Concentration Tannic acid-capped AgNPs in Ethanol
Product Code: ag-121c
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Greyish black suspension
Particle Shape: Nanospheres
Primary Particle Size: 6 ± 4 nm
Concentration: 100,000 part per million (ppm; equivalent to mg/L)
Solvent: Ethanol*
Stabilizing Agent: Tannic Acid
Stability: 12 months; Use within 3 months after open
Recommended dosage: 0.01-0.2%

*Solvent can be changed to Isopropanol (IPA) upon request.

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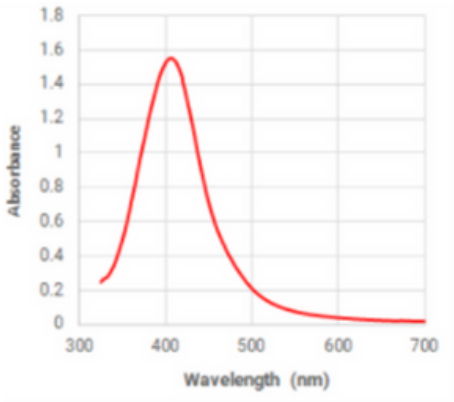
Silver Nanoparticles

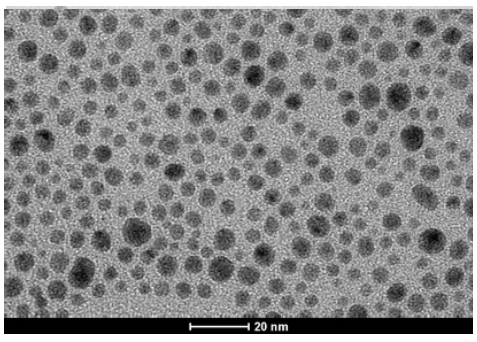
47
Ag
107.868

ag-122

Name: Tannic acid-capped AgNPs in DI Water
Product Code: ag-122
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 6 ± 4 nm
Concentration: 10,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Tannic acid
λmax (UV-VIS Absorbance): 410 ± 5 nm
Stability: 12 months; Use within 3 months after open
Recommended dosage: 0.1-2%





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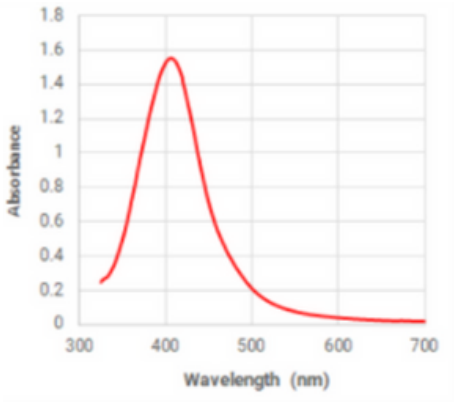
Silver Nanoparticles

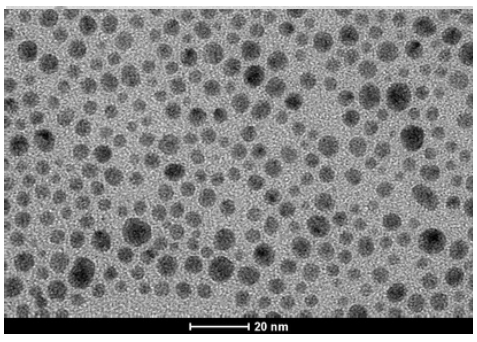
47
Ag
107.868

ag-123c

Name: Tannic acid-capped AgNPs in DI Water
Product Code: ag-123c
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 6 ± 4 nm
Concentration: 5,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Tannic acid
λmax (UV-VIS Absorbance): 410 ± 5 nm
Stability: 12 months; Use within 3 months after open
Recommended dosage: 0.2-4%





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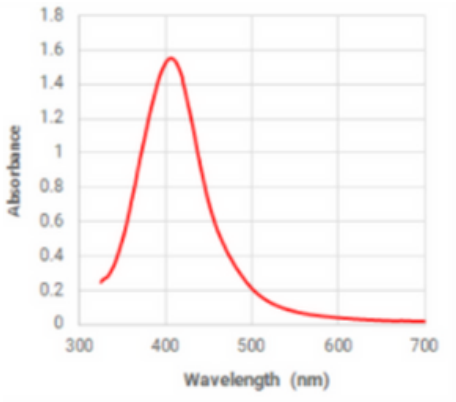
Silver Nanoparticles

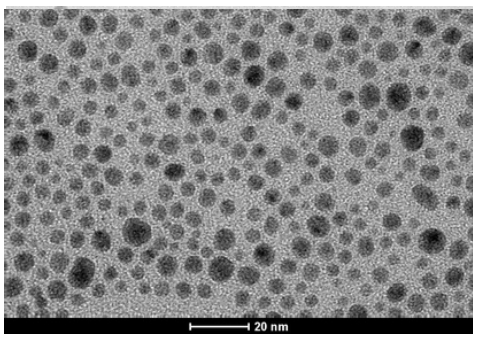
47
Ag
107.868

ag-123

Name: Tannic acid-capped AgNPs in DI Water
Product Code: ag-123
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 6 ± 4 nm
Concentration: 1,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Tannic acid
λmax (UV-VIS Absorbance): 410 ± 5 nm
Stability: 12 months; Use within 3 months after open
Recommended dosage: 1-5%





PRIME nano technology

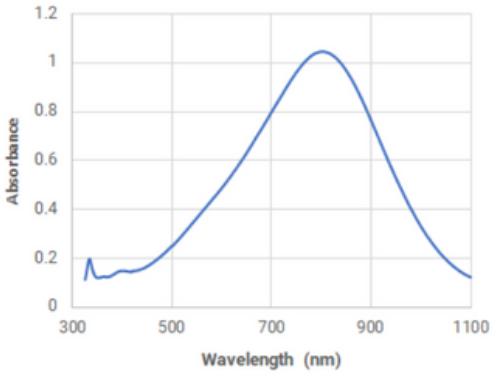
Silver Nanoplates

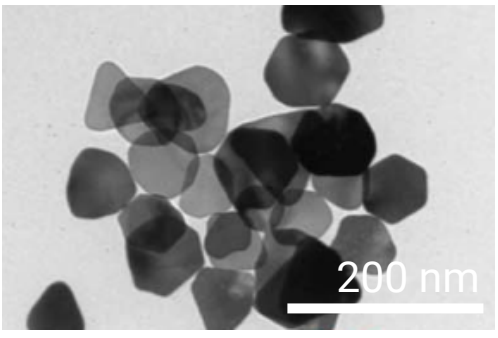
47
Ag
107.868

ag-107

Name: Silver Nanoplates
Product Code: ag-107
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction and shape conversion
Applications: Antibacterial additives

Appearance: Dark blue colloid
Particle Shape: Nanoplates
Average Particle Size: 80-120 nm lateral edges with 5-20 nm thickness
Concentration: 1,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 850 ± 50 nm
Stability: 12 months; Use within 3 months after open
Recommended dosage: 1-10%





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Anisotropic Nanosilver

47
Ag
107.868

ag-111

Name: Anisotropic Nanosilver
Product Code: ag-111
Chemical Formula: Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction and shape conversion
Applications: Antibacterial additives, Sensors

Appearance: Colored colloid
Orange/Red (λmax c.a. 450-520 nm; Max concentration: 200 ppm)
Magenta/Purple (λmax c.a. 520-600 nm; Max concentration: 300 ppm)
Blue (λmax c.a. 600-1,000 nm; Max concentration: 800 ppm)*
Particle Shape: Anisotropic
Average Particle Size: Varied
Solvent: Deionized water
Stabilizing Agent: Starch
Stability: 12 months; Use within 3 months after open

*For λmax c.a. 800-900 nm, please see the previous page (ag-107).

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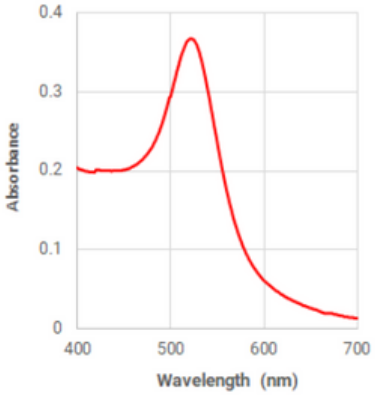
Gold Nanoparticles

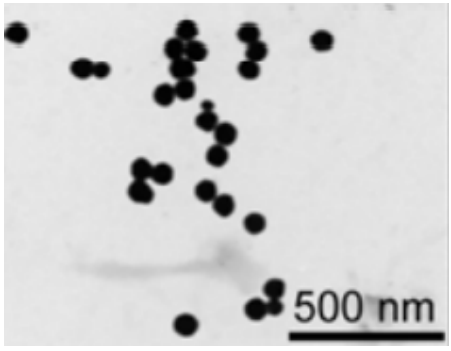
79
Au
196.967

au-101

Name: High Concentration Starch-capped AuNPs in DI Water
Product Code: au-101
Chemical Formula: Au (CAS No.7440-57-5)
Method of Synthesis: Chemical reduction
Applications: Medicine, Drug delivery, Sensors, Lateral flow, SERS, Catalyst

Appearance: Dark red colloid
Particle Shape: Nanospheres
Average Particle Size: 15 ± 10 nm
Concentration: 1,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 522 ± 3 nm
Stability: 6 months; Use within 2 months after open





PRIME nano technology

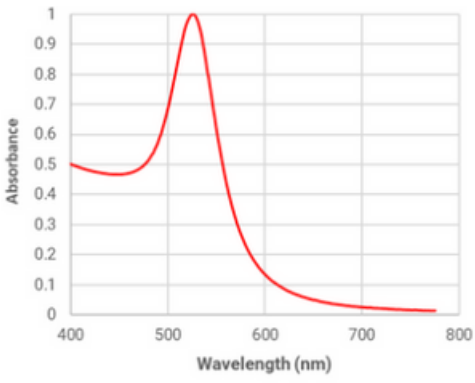
Gold Nanoparticles

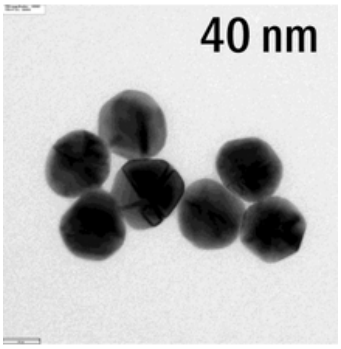
79
Au
196.967

au-nt-40nm-102

Name: Citrate-capped AuNPs in DI Water
Product Code: au-nt-40nm-102
Chemical Formula: Au (CAS No.7440-57-5)
Method of Synthesis: Chemical reduction
Applications: Lateral flow, Medicine

Appearance: Red colloid
Particle Shape: Nanospheres
Average Particle Size: 40 ± 5 nm
Concentration: 1 OD
Solvent: Deionized water
Surface: Citrate
λmax (UV-VIS Absorbance): 528 ± 2 nm
PDI: <0.2
Stability: 12 months (at 4°C); Use within 2 months after open





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